Data Cable Modem

Model Number: U10C011



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1. Before You Begin

Your new cable modem provides high-speed access to the Internet by an active Internet Connection through your cable service provider. This user guide describes how to set up and use the cable modem. Before installing the cable modem, you should read this user guide to ensure proper cable modem operation.

Understand the Cable Modem's Features

Your cable modem has the following features to help you access and use the Internet:

- Two-way design allows the cable modem to send and receive data over the cable television network.
- Cable bandwidth allows data rates of up to 38 megabits per second (Mbps)*, which is faster than analog modems, integrated services digital network (ISDN), or asymmetric digital subscriber line (ADSL).
- Using your cable line means that the cable modem is always on, always connected, and does not tie up your phone line.
- Plug-and-play operation through universal serial bus (USB) ensures easy setup and installation.
- Data Over Cable Service Interface Specification (DOCSIS™) compliance ensures interoperability with DOCSIS compliant cable operators.
- Windows Hardware Quality Labs (WHQL) certification ensures interoperability with Microsoft Operating Systems.

*NOTE: Speeds may vary based on the following factors:

- Computer equipment including available RAM and processor speed
- Software applications utilizing your computer's resources
- Network traffic depending on the time of day
- Limitations set by your Cable Service Provider

Contact Your Local Cable Operator

Before installing you new cable modem, you must contact your local cable service provider to activate your Internet account. Be sure to have the cable modem's MAC address available, which can be found on the underside of the cable modem.

Prepare Your Area for Cable Modem Installation

Before installing your cable modem, you should first prepare your area. To do this:

- 1. Locate your cable outlet and ensure that it is located within proper distance of your cable modem and computer. Be sure not to bend the cable as this may strain the connector and cause damage.
- 2. Ensure that the temperature in the room where the cable modem will be operating is between 0 and 40°C (32 and 104°F)

Gather Supplied and Required Items

You will use a variety of items to install your cable modem. Some of the items are supplied with your cable modem.

Supplied

Verify that these items were included in the cable modem's package:

- Cable modem
- Power adapter
- USB cable (1.5m)
- Ethernet cable (1.8m)
- CD containing USB drivers
- This User's Guide

Not Supplied

Verify that these items are available before beginning the installation:

- If using the cable modem's USB port:
 - A PC running Windows 98[®] Second Edition (SE), Windows Me, Windows 2000, or Windows XP. The cable modem's USB setup does not support the Macintosh [®] operating system, Windows 98 First Edition, and NT.
 - Windows 98 SE, Windows Me, Windows 2000, or Windows XP CD or diskettes.
 - An active USB port on your PC.
- If using the cable modem's Ethernet port:
 - A PC running Windows 95 (or later) operating system or a Macintosh computer running system 7.6 (or later) operating system
 - An active Ethernet port on your PC or Macintosh

Be sure to follow the instructions provided for the port that you want to use.

Using the USB port allows you to install the cable modem faster and easier than using the ethernet port, because you do not have to install and configure a network interface card (NIC).

USB, however, only enables you to connect one computer to the cable modem. Using the ethernet port allows you connect multiple computers to a cable modem through the use of additional equipment that is not included. Please contact your cable service provider for more information on using multiple computers.

2. Installing the Cable Modem Using the USB Port

This chapter explains the process of installing your cable modem using the USB port. First, you will install the hardware (cable modem, USB cable, coax cable, and power adapter). You will then install the cable modem drivers and verify that the computer USB port is functioning properly.

NOTE: The cable modem's USB setup does not support the Macintosh® operating system, Windows 95 & NT.

Installing the Software Drivers Before Hardware Connection CAUTION: You should run the "Setup.exe" program first before you connect the USB cable to the PC.

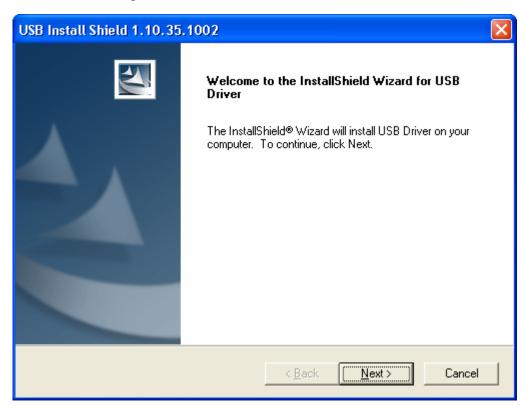
To install the USB drivers using the Windows operating system:

1. Double click the Setup.exe program in the CD.

2. Then the "Choose Setup Language" screen appears. You can choose the language you need and click *OK*.



3. You will see the following Welcome screen.



4. Click Next. You will see the following Start Copying Files screen.

USB Install Shield 1.10.35.1002		×
Start Copying Files Review settings before copying files.		
Setup has enough information to start copying change any settings, click Back. If you are sal copying files. Current Settings:		
Install file: ====================================		
InstallShield	>	
	< <u>B</u> ack <u>Next</u> > Cancel	

5. Click Next. You will see the following screen.

USB Install Shield 1.10.35.1002		
	InstallShield Wizard Complete	
	Setup has finished installing USB Driver on your computer.	
	< Back Finish Cancel	

6. Click Finish. Now you can install the hardware.

Installing the Hardware

This section explains how to connect the cable modem to the computer, wall outlet, and electrical outlet.

To install the hardware:

- 1. Power off the computer
- 2. Connect one end of the coaxial cable to the cable modem's cable connector. Connect the other end of the coaxial cable to the cable wall outlet. Be sure not to bend or over tighten the cables as this may strain the connector and cause damage. If you plan to connect the cable modem and television to the same wall outlet, you must use a cable line splitter (not included).
- 3. Connect one end of the USB cable to the cable modem's USB port and the other end of the cable to the USB port on the PC.
- 4. Plug the cable modem's power adapter into the cable modem's power jack and into a wall

outlet or surge protector.

5. You are now ready to install the software drivers.

Installing the Software Drivers

This section explains how to install the software drivers that your PC requires for the cable modem to operate.

Installing the Software Drivers in Windows 98 SE Operating System

CAUTION: You must install the drivers located on the CD that ships with your cable modem. If you use the default Windows-supplied software drivers, you will not be able to properly install the cable modem.

To install the cable modem software drivers using the Windows 98 operating system:

1. Power on your PC. After your computer boots, Windows detects the cable modem. The Found New Hardware screen appears, followed by the Add New Hardware Wizard screen.



2. Insert the CD into the PC's CD-ROM drive and click *Next*. You will see the following screen.

 What do you want Windows to do? Search for the best driver for your device. (Recommended). Display a list of all the drivers in a specific location, so you can select the driver you want.
< <u>B</u> ack Cancel

3. Select *Search for the best driver for your device (Recommended)*. Then select *Next*. You will see the following screen.

	Windows will search for new drivers in its driver databa- on your hard drive, and in any of the following selected locations. Click Next to start the search.
	Eloppy disk drives
K	CD-ROM drive
	☐ Microsoft Windows Update
1	Specify a location:
	E.V.
	Browse

4. Check the *CD-ROM drive* check box and verify that the CD is in the CD-ROM drive. Click *Next* to have Windows search for the necessary driver files. You will see the following:

• I	nat do you want to install? [he updated driver (Recommended]
	JSB Cable Modem 351000
	Dine of the other drivers.

5. Select *the updated driver (Recommended) USB Cable Modem* 351000 and click *next*. You will see the following screen.

CAUTION: You must verify that Ambit USB Cable Modem appears on the screen. If USB Composite Device appears, you must click *Back* twice and specify the correct location of the driver files. DO NOT proceed if USB Composite Device is displayed in the above window. Contact your cable provider for further assistance.



6. Click *Next*. The computer automatically installs the necessary driver files. You may see the following screen

Add I	New Hardware Wizard	
	Windows driver file search for the device:	
	Copying Files	
	Source:	er for this
Insert Di	isk	×
8	Please insert the disk labeled 'Windows 98 Second Edition CD-RO click OK.	M', and then
	< <u>B</u> ack Next>	Cancel

7. If the above screen appears, you must insert the Windows 98 CD so that Windows can copy the remaining files.

Add Ne	w Hardware Wizard Windows driver file search for the device:	
	Copying Files Source: Windows 98 Second Edition CD-ROM Destination: C:\WINDOWS\SYSTEM\RPCLTS3.DLL 41%	er for this , or click Next
	< <u>B</u> ack Next >	Cancel

8. After files copying is done, you will see the following screen:

Add New Hardware Wiz	ard
Add New Hardware Wiz	USB Cable Modern 351000 Windows has finished installing the software that your new hardware device requires.
	< <u>B</u> ack Finish Cancel

9. Click *Finish* to complete the installation. You will see the following screen.

Add New H	lardware Wiza	nđ
		USB Cable Modem 351000
		Windows has finished installing the software that your new hardware device requires.
System S	ettings Chang	je 🛛 🕅
?		g up your new hardware, you must restart your computer. restart your computer now? Yes No
-		
		<u>Kancel</u>

- 10. Choose Yes to restart your computer.
- 11. After the computer is rebooted, verify that the USB LED is lit on the front of you cable modem. If not, refer to the troubleshooting section later in this chapter.

Installing the Software Drivers in Windows Me Operating System

To install the cable modem software drivers using the Windows Me operating system:

1. Power on your PC. After your computer boots, Windows detects the cable modem. The Found New Hardware screen appears, followed by the Found New Hardware Wizard screen.



2. Insert the CD into the PC's CD-ROM and click Next. You will see the following screen.

Add New Hardware Wizard		
	 Windows has found the following new hardware: Ambit USB Cable Modem Windows can automatically search for and install software that supports your hardware. If your hardware came with installation media, insert it now and click Next. What would you like to do? Automatic search for a better driver (Recommended) Specify the location of the driver (Advanced) 	
	< Back Next > Cancel	

3. Select *Automatic search for a better driver (Recommended)* and click *Next*. The computer automatically copies the necessary driver files from the CD. You will see the following screen.

S

Add New Hardware Wiz	ard
Add New Hardware Wiz	ard Windows driver file search for the device: USB Cable Modem 351000 Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next to continue. Location of driver: E:\USBCM.INF
	<back next=""> Cancel</back>

4. Click Next. The computer automatically installs the necessary driver files.



5. Click *Finish* after the computer has copied the necessary files. You will see the following screen.

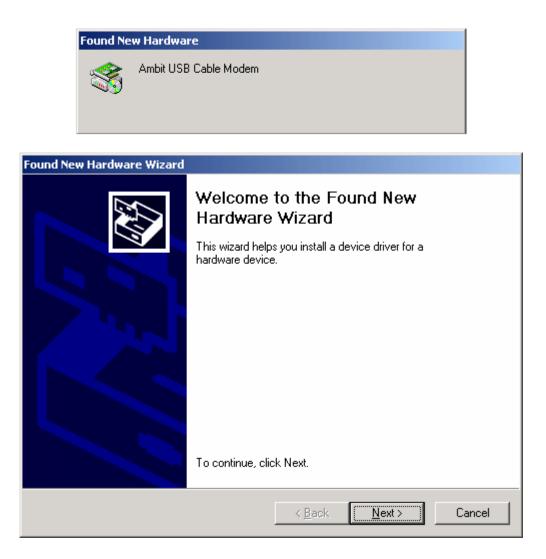
Id New Haid	ware Wizard	USB Ca	ble Modem 351000	
System Set	Win ings Change	dows has fini:	shed installing the new l	nardware devid
	o finish setting up y o you want to rest		lware, you must restart j uter now?	your computer.
		Yes	No	
		< <u>B</u> a	ck Finish	Cancel

6. Click Yes to restart the computer

Installing the Software Drivers in Windows 2000 Operating System

To install the cable modem software drivers using the Windows 2000 operating system:

1. Power on your PC. After your computer boots, Windows detects the cable modem. The Found New Hardware screen appears, followed by the Found New Hardware Wizard screen.



2. Insert the CD into the PC's CD-ROM Drive and click Next. You will see the following screen.

Found New Hardware Wizard
Install Hardware Device Drivers A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device: Image: Complete the installation for this device. Image: Complete the installation for the wizard to do? Image: Complete the wizard to the wizard to do? Image: Complete the wizard to the wi
< <u>B</u> ack <u>N</u> ext > Cancel

3. Select *Search for a suitable driver for my device (recommended*. Then select *Next*. You will see the following screen

Found New Hardware Wizard			
Locate Driver Files Where do you want Windows to search for o	driver files?		
Search for driver files for the following hardw	are device:		
Ambit USB Cable Modem			
The wizard searches for suitable drivers in its any of the following optional search locations To start the search, click Next. If you are sea insert the floppy disk or CD before clicking N	s that you specil arching on a flop	fy.	
Optional search locations: Floppy disk drives CD-ROM drives Specify a location Microsoft Windows Update			
	< Back	Next >	Cancel

4. Check the CD-ROM drive check box and verify that the CD is in the CD-ROM drive. Click

Next to have Windows locate the necessary driver files. You will see the following screen.

Found New Hardware Wizard			
Driver Files Search Results The wizard has finished searching for drive	r files for your har	dware device.	
The wizard found a driver for the following (device:		
Ambit USB Cable Modem			
Windows found a driver for this device. To	install the driver \	Vindows found, (click Next.
e:\usbcm.inf			
	< Back	Next >	Cancel

5. Click *Next* to install the driver files for the cable modem. You will see the following screen.

Found New Hardware Wizard	
	Completing the Found New Hardware Wizard Windows has finished installing the software for this device.
	To close this wizard, click Finish.
	K Back Finish Cancel

- 7. Click *Finish* to complete the installation.
- 8. After the installation is completed, verify that the USB LED is lit on the front of you cable modem. If not, refer to the troubleshooting section later in this chapter.

Installing the Software Drivers in Windows XP Operating System

1. Power on your PC. After your computer boots, Windows detects the cable modem. The Found New Hardware screen appears, followed by the Found New Hardware Wizard screen.

Found New Hardware Wizard					
	Welcome to the Found New Hardware Wizard				
	This wizard helps you install software for:				
	Ambit USB Cable Modem				
If your hardware came with an installation C or floppy disk, insert it now.					
	What do you want the wizard to do?				
	 Install the software automatically (Recommended) Install from a list or specific location (Advanced) 				
	Click Next to continue.				
	< Back Next > Cancel				

2. Choose *the software automatically (Recommended)*. Click *Next* to continue. You will see the following screen.

Found New Hardware Wizard				
Please wait while the wizard installs the software				
USB Cable Modem 351000				
usbcm. sys To C:\WINDOWS\System32\DRIVERS				
< Back Next > Cancel				
Found New Hardware Wizard				
<image/> <image/>				
Click Finish to close the wizard.				
K Back Finish Cancel				

3. Click *Finish* to complete the installation.

Troubleshooting the USB Installation

None of the LEDs is on when I power on the LAN Cable Modem.

Check the connection between the power adapter and the cable modem. Power off the cable modem and wait for 5 seconds, and power on the modem again. If the problem still exists, you may have a hardware problem.

When attempting to install the USB driver in Windows 98 SE, I receive the following error message: Device not installed at this time. Driver not found.

This usually occurs when the wrong driver has been installed. To remove the wrong driver and install the correct driver:

- 1. Right-click on the My Computer icon on your desktop and choose Properties.
- 2. Click the Device Manager tab
- 3. Click the plus sign next to *Universal Serial Bus controllers* to view the list of installed USB device drivers.

System Properties	? ×
General Device Manager Hardware Proliles Performance	1
[]	1
View devices by type View devices by connect	ion
🔁 🙆 CDROM	*
🗄 🚍 Disk dives	
🗈 🖳 Display adapters	
E S Floppy disk controllers	
🗄 🖶 🖶 Hard cisk controllers	
i ⊕-@≵ Keyboard i ⊕- Monitors	
H-C Mouse	
Indusc	
🗄 💆 Ports (COM & LPT)	
🙃 🥵 Sound, video and game controllers	
💼 🚍 System device:	
🖻 😋 Universal Seria Bus controllers	
PCI to US3 Open Host Controller	
USB Composte Device	
USB Root Hub	•
Properties Refresh Remove	Print
Properties Refresh Remove	
Close	Cancel
	a i

- 4. Select USB Composite Device and click Remove
- 5. Click Refresh

The Add New Hardware Wizard window appears, displaying the device name *USB Composite Device*. Refer to the proper operating system instructions in this chapter for information on reinstalling the driver properly.

All of the LEDs on the front of my modem look correct, but I cannot access the Internet.

- If the **power**, **usb**, **sync**, and **ready** LEDs are solidly lit, the cable modem is working properly. Use the following procedures to verify connectivity between the PC and the cable modem:
 - Launch Your PC's Internet Browser (e.g., Netscape, IE)
 - Enter <u>http://192.168.100.1</u> into your browser. This URL connects you directly to the web server within your cable modem. A successful connection indicates that the PC is able to communicate with the cable modem. The next step is to enter a public URL to ensure connectivity between the cable modem and your cable service provider. If this fails, please contact your cable service provider for further assistance.

- Try restarting the computer so that it could re-establish a connection with the cable modem.
- Power cycle the cable modem by removing the power adapter from the electrical outlet and plugging it back in. Wait for the cable modem to re-establish communications with your cable service provider.
- Remove any other USB devices from your computer and connect the cable modem's USB cable directly to the USB port on your computer.
- If you are using a cable splitter, try removing the splitter and connect the cable modem directly to the cable wall outlet. Wait for the cable modem to re-establish communications with your cable service provider.
- Your USB or coaxial cable may be damaged. Try using another cable.
- If none of these suggestions work, contact your cable service provider for further assistance.

Uninstalling the USB Driver

- 1. Insert the supplied CD into your CD-ROM drive
- 2. Click on the *My Computer* icon on your desktop. Then click on the icon that belongs to your CD-ROM Drive.
- 3. Locate the file called "Uninstall" and click on the file. This program will remove all the necessary files from you computer.

3. Installing the Modem Using the Ethernet Port

This chapter explains the process for installing your cable modem using the ethernet port. Using the ethernet port allows to you connect multiple computers to the cable modem using additional equipment which is not included. Please contact your cable service provider for more information on using multiple computers.

See Chapter 2 "Installing the Cable Modem Using the USB Port" for instructions on installing the cable modem using the USB port.

You can use the cable modem's Ethernet port if you have:

- A PC running Windows 95 (or later) operating system or a Macintosh computer running system 7.6 (or later) operating system
- An active Ethernet port on your PC

Before you begin, verify that your Network Interface Card (NIC) has been installed and configured for use with your cable modem. The cable modem requires TCP/IP to be installed. Contact your cable service provider for assistance with installing and configuring TCP/IP. After installed the hardware, your computer can connect the cable modem directly by using Network Interface Card. Unlike USB installation, there is no needed for software installation for the ethernet connection.

Installing the Hardware

This section explains how to connect the cable modem to the computer, wall cable outlet, and electrical outlet.

To install the hardware:

- 1. Power off the computer
- 2. Connect one end of the coaxial cable to the cable modem's cable connector. Connect the other end of the coaxial cable to the cable wall outlet. Be sure not to bend or over tighten the cables as this may strain the connector and cause damage. If you plan to connect the cable modem and television to the same wall outlet, you must use a cable line splitter (not included).
- 3. Connect one end of the ethernet cable to the cable modem's ethernet port and the other end of the cable to the ethernet port on the PC or network interface card (NIC).
- 4. Plug the cable modem's power adapter into the cable modem's power jack and into a wall

outlet or surge protector.

5. If the **power**, **enet**, **sync**, and **ready** LEDs are solidly lit, the cable modem is working properly.

Troubleshooting the Ethernet Installation

None of the LEDs are on when I power on the Cable Modem.

Check the connection between the power adapter and the cable modem. Power off the cable modem and wait for 5 seconds, and power on the modem again. If the problem still exists, you may have a hardware problem.

The enet LED on my cable modem is not lit.

- Try restarting the computer so that it could re-establish a connection with the cable modem.
- Check for a resource conflict (Windows users only). To do this:
 - 1) Right-click on the My Computer icon on your desktop and choose Properties.
 - 2) Click the *Device Manager* tab and look for a yellow exclamation point or red X over the NIC in the *Network Adapters* field. If you see either one, you may have an IRQ conflict. Refer to the manufacturer's documentation or contact your cable service provider for further assistance.
- Verify that TCP/IP is the default protocol for your network interface card (NIC)
- Power cycle the cable modem by removing the power adapter from the electrical outlet and plugging it back in. Wait for the cable modem to re-establish communications with your cable service provider.
- Your ethernet cable may be damaged. Try another cable.

All of the LEDs on the front of my modem look correct, but I cannot access the Internet.

- If the **power**, **enet**, **sync**, and **ready** LEDs are solidly lit, the cable modem is working properly. Try restarting the computer so that it could re-establish a connection with the cable modem.
- Power cycle the cable modem by removing the power adapter from the electrical outlet and plugging it back in. Wait for the cable modem to re-establish communications with your cable service provider.
- If your PC is connected to a hub or gateway, try connecting the PC directly into the cable

modem.

- If you are using a cable splitter, try removing the splitter and connect the cable modem directly to the cable wall outlet. Wait for the cable modem to re-establish communications with your cable service provider.
- Your ethernet or coaxial cable may be damaged. Try using another cable.
- If none of these suggestions work, contact your cable service provider for further assistance.

4. Cable Modem LEDs and Connectors

This chapter describes the functions of the cable modem's LEDs and connectors.

When the **power**, **sync**, and **ready** LEDs are lit, the cable modem is working properly. The **usb** or **enet** LED should also be lit depending on what port is being used.

The following provides an overview of the LEDs on the front of the cable modem and what the LEDs mean.

LEDs on the Front of the Modem



- **power**: Indicates that the cable modem has successfully completed internal power-on tests.
- **usb**: Indicates connectivity between the USB port on the cable modem and the PC's USB port
- **enet**: Indicates connectivity between the ethernet port on the cable modem and the PC's ethernet port.
- **send**: Indicates that data is being transmitted from the cable modem to the cable network.
- recv: Indicates that data is being received from the cable network.
- **sync**: Indicates the connection status between the cable modem and the cable network. The LED is lit when the cable modem has established a downstream channel with the cable service provider's Cable Modem Termination System (CMTS).
- **ready**: Indicates that the cable modem has completed the ranging/registration process and is ready to send/receive data.

Installation problems with the cable modem are commonly due to the cable network and its topography. LEDs on the front panel of the cable modem reveal operational status and help you determine problem areas.

LEDs indications					("X" means	not applicable)	
Initialization Sequence	power	usb	enet	send	recv	sync	ready
Power ON	On	Off	Off	Off	Off	Off	Off
Hardware Testing	On	Off	Off	Off	Off	Off	Off
Search Downstream Channel	On	Х	Х	Х	Blink	Off	Off
Downstream Locked	On	Х	Х	Х	Х	On	Slow Blink
Search Upstream Channel	On	X	X	X	X	On	Fast Blink
Ranging OK and Registration Success	On	Х	Х	Х	Х	On	On
Ethernet Port	power	usb	enet	send	recv	sync	ready
Send Data	On	Off	Blink	Blink	X	On	On
Receive Data	On	Off	Blink	X	Blink	On	On
		_					
USB Port	power	usb	enet	send	recv	sync	ready
Send Data	On	Blink	Off	Blink	X	On	On
Receive Data	On	Blink	Off	Х	Blink	On	On

Connectors on the Back of the Modem

This list of connectors describes where to connect the cables and power adapter when installing the cable modem.



- 1. **power**: This is where you plug the included power adapter. Remember to use only the power adapter that came with the cable modem.
- 2. **usb**: This is where you plug the included USB cable. The other end connects to the USB port on your PC. It is not required when using the ethernet port.
- 3. **enet**: This is where you plug the included ethernet cable. The other end connects to the ethernet port on the PC or NIC. It is not requires when using the USB.
- 4. **cable**: This is where you connect the coaxial cable (not included) that leads to the cable splitter (not included) or the cable wall outlet.